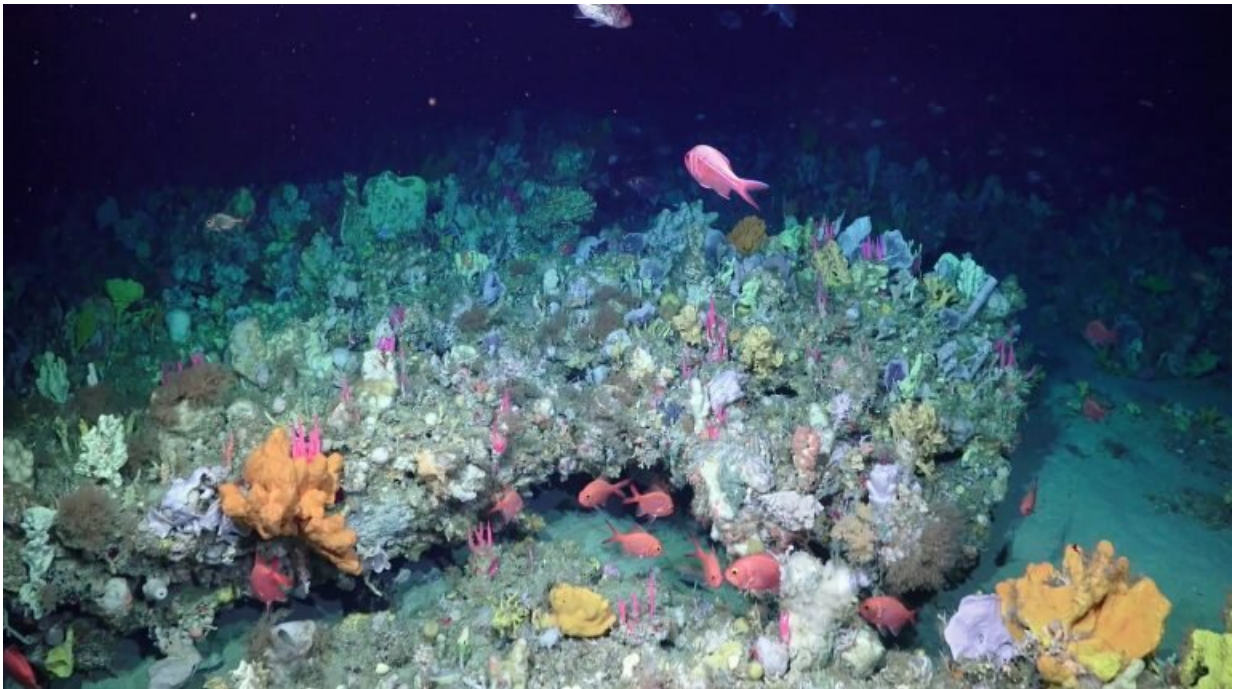


# Deep-sea coral gardens discovered in canyons off Australia's South West

February 28 2020

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Credit: Schmidt Ocean Institute

Stunning 'gardens' of deep-sea corals have been discovered in the Bremer Canyon Marine Park by Australian and international scientists during an oceanographic expedition aboard Schmidt Ocean Institute's R/V Falkor.

Bremer Canyon Marine Park is already known as a [biodiversity hotspot](#)

for [marine species](#) such as whales and dolphins, however, a recent expedition focused on the deep sea has now revealed rich and diverse ecosystems inhabiting the [cold waters](#) deep within the canyon.

Led by researchers from The University of Western Australia, these discoveries were only made possible by the philanthropic Schmidt Ocean Institute's deep-sea remotely operated vehicle, SuBastian, which is capable of sampling depths to 4,500m.

The team collected deep-sea corals, associated fauna, seawater and geological samples from the abyssal depths (about 4,000m) to the continental shelf (about 200m).

Expedition leader Dr. Julie Trotter, from UWA's School of Earth Sciences and Oceans Institute, said they had already made a number of remarkable discoveries from the Bremer Canyon.

"The vertical cliffs and ridges support a stunning array of [deep-sea corals](#) that often host a range of organisms and form numerous mini-ecosystems," Dr. Trotter said.

"Such rare records of these deep-sea habitats are a new and very important contribution to the Marine Parks, which will help managers as well as the broader community to better understand and protect these previously unknown ecosystems. "

The [deeper waters](#) in the three oceans that surround Australia, including the world's largest barrier reef and submarine canyons, are largely unexplored. The expedition explored the Bremer, Leeuwin and Perth canyons, all of which have extensive fossil coral deposits, with the Leeuwin especially notable for a massive pedestal-like coral graveyard.

Professor Malcolm McCulloch, also from UWA's Oceans Institute, said

the discovery had global implications given these waters originate from around Antarctica and feed all of the major oceans and regulate our climate system.

Australia has only one oceanographic vessel available for scientific research and no supporting [deep-sea](#) underwater robots, which makes this expedition so important and rare.

Facing the Southern Ocean, the Bremer Canyon provides [important information](#) on the recent and past histories of climate change and ocean conditions in this region, as well as global scale events.

Because the Southern Ocean completely encircles Antarctica, it is the main driver of the global climate engine and regulates the supply of heat and nutrient-rich waters to the major oceans.

Dr. Paolo Montagna from the Institute of Polar Sciences in Italy said a particular species of solitary cup coral was found during the expedition.

"This is significant because we are working on the same coral in the Ross Sea on the Antarctic shelf, in much colder waters," Dr. Montagna said.

"This is an important connection between disparate sites across the Southern Ocean, which helps us trace changes in water masses forming around Antarctica and dispersing northward into the Indian and other oceans."

Provided by University of Western Australia

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